

June 21, 1955

Dr. Alexander Weinstein
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Cambridge, Mass.

Dear Dr. Weinstein:

I am enclosing the bibliographic list that I promised you. Most of the papers have very little to do with crossing-over. However, you might find something interesting in a review, #11. #45 will take up a number of issues ~~from~~ of possible interest on the mechanism of transduction in relation to crossing over. #25 has a good bit of data that became intelligible on the basis of F polarity (34,44). In my Ph.D. thesis at Yale, I have a derivation of an expression for calculating the absolute map distance over an interval a-b-c, given the proportion of single to triple (or odd-ple) crossovers, which comes up in #9. The expression is

$\tanh a = \sqrt{\frac{2\alpha}{3\gamma}}$ where a is the map distance for that interval, while α and γ are the relative frequencies of single crossovers and the triple class.

I am also enclosing the treatment, for a 4-point linkage test, of transduction data such as Demerec uses. We are working on a generalized formulation. If I can find it, I will also send you a copy of the operator notation I had only begun to work out for 4-strand crossing over. I will also forward some reprints, but most of those that would be especially pertinent are, I am afraid, exhausted.

I assume it would be too much to expect that you still had a supply of reprints of your own earlier papers, especially 1936?

Yours sincerely,

Joshua Lederberg
Joshua Lederberg
Professor of Genetics

of 3 : 1947
cross notation 1/82